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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------------|------------------|
| 10/824,446 | 04/15/2004 | Yun-Bok Lee | 053785-5177 | 6611 |
| 9629 | 7590 | 09/07/2005 | EXAMINER | |
| MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004 | | | CHOWDHURY, TARIFUR RASHID | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2871 | |
| DATE MAILED: 09/07/2005 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/824,446

Applicant(s)

LEE, YUN-BOK

Examiner

Tarifur R. Chowdhury

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13-15 is/are rejected.
- 7) ☒ Claim(s) 9-12 and 16-19 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>04/15/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

3. Claim 17 is objected to because of the following informalities: In claim 17, line 1, "13" should be changed to -16-. Appropriate correction is required.

For examination purposes it is assumed that claim 17 depends from claim 16 not claim 13.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 1-8 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (AAPA) in view of Hirakata et al., (Hirakata).**
6. The AAPA described in the instant application discloses (pages 10-11) and shows in Fig 6, an in-plane switching liquid crystal display device, comprising:

- a first liquid crystal cell area (VIa) that has a first size and a second liquid crystal cell area (VIb) that has a second size on a first bare glass (99), wherein first longer sides of the first liquid crystal cell area run in a first direction on the first bare glass and second longer sides of the second liquid crystal cell areas run in a second direction;

The AAPA further discloses (pages 7-8) and shows in Fig. 4, a conventional in-plane switching type liquid crystal display device comprising:

- array elements that include thin film transistors (not shown), common electrodes (72) and pixel electrodes (74) within the first and second liquid crystal cell areas (Fig. 4) of the first bare glass (70); and
- a color filter layer (not shown) on a second bare glass (80) having liquid crystal cell areas corresponding in size to the first and second liquid crystal cell areas are defined.

The AAPA differs from the claimed invention because it does not explicitly disclose that the common electrodes and the pixel electrodes define concentric ring-shaped apertures.

Hirakata discloses an in-plane switching type liquid crystal display wherein the pixel electrode (331) and the common electrode (332) define concentric ring-shaped apertures (Fig. 11). He further discloses that such a structure is advantageous since it produces a uniform electric field between the pixel electrode and the common electrode (col. 9, lines 51-54).

Hirakata is evidence that ordinary workers in the art would find a reason,

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suggestion or motivation to form pixel electrode and common electrode that define concentric ring-shaped apertures.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the display device of the AAPA by using common electrodes and pixel electrodes that define concentric ring-shaped apertures in order to produce uniform electric field between the pixel electrode and the common electrode, as per the teachings of Hirakata.

Accordingly, claims 13 and 14 would have been obvious.

As to claim 15, it is clear from Fig. 6 of the AAPA that the first size is larger than the second size.

As to claims 1-4, the AAPA also discloses and shows in Fig. 6 that the first bare glass having the array elements are rubbed in a first direction (RD'1) and the second bare glass having the color filter in a second rubbing direction (RD'2) opposite to the first rubbing direction wherein the first rubbing direction is 180 degrees. Further, the process for forming the in-plane switching liquid crystal display device merely recites the steps of forming each element and since each element must be formed to make the device, the method would have at least been obvious in view of the device.

As to claim 5, it is clear from Fig. 6 of the AAPA that the first direction is parallel with the second direction.

As to claims 6-8, the AAPA described in the instant application also shows in Fig. 5B a conventional in-plane switching type liquid crystal display wherein an array elements includes a gate line (GL) formed horizontally, a data line (DL) formed

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longitudinally and a common line (CL) parallel with the gate line and that the gate line and the data line cross each other to define a pixel region.

Allowable Subject Matter

7. Claims 9-12 and 16-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

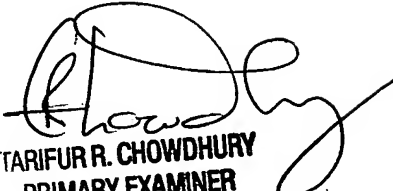
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC
August 30, 2005



TARIFUR R. CHOWDHURY
PRIMARY EXAMINER